

CLAIMS:

1. A compound 8 to 50 nucleobases in length targeted to a nucleic acid molecule encoding human stearoyl-CoA desaturase, wherein the compound specifically hybridizes with a nucleic acid molecule encoding human stearoyl-CoA desaturase and inhibits the expression of human stearoyl-CoA desaturase.

2. The compound according to claim 1, which is an antisense oligonucleotide.

3. The compound according to claim 2, which hybridizes to a sequence within a nucleic acid molecule encoding human stearoyl-CoA desaturase SEQ ID NO: 3, provided that said sequence does not include nucleotide sequences spanning 70 through nucleotide 91, nucleotide 242 through nucleotide 262, or nucleotide 860 through nucleotide 882 of SEQ ID NO: 3.

4. The compound according to claim 2, wherein the antisense oligonucleotide comprises at least one modified internucleoside linkage.

5. The compound according to claim 4, wherein the modified internucleoside linkage is a phosphorothioate linkage.

6. The compound according to claim 2, wherein the antisense oligonucleotide comprises at least one modified sugar moiety.

7. The compound according to claim 6, wherein the modified sugar moiety is a 2'-O-methoxyethyl sugar moiety.

8. The compound according to claim 2, wherein the antisense oligonucleotide comprises at least one modified

nucleobase.

9. The compound according to claim 8, wherein the modified nucleobase is a 5-methylcytosine.

10. The compound according to claim 2, wherein the antisense oligonucleotide is a chimeric oligonucleotide.

11. The compound according to claim 2, wherein said antisense oligonucleotide inhibits expression of said human stearoyl CoA desaturase by at least 10% in a suitable assay.

12. The compound according to claim 2, wherein said antisense oligonucleotide inhibits expression of said human stearoyl CoA desaturase by at least 90% in a suitable assay.

13. The compound according to claim 1, wherein said compound comprises a sequence selected from the group consisting of SEQ ID NOS: 18, 19, 20, 23, 25, 26, 29, 30, 31, 33, 39, 43, 44, 83, 84, 85, 87, 88, 89, 91, 93, 94, 95, 97, 98, 100, 101, 102, 103, 105, 107, 108, 109, 110, 112, 113, 114, 115, 117, 118, 119, 120, 124, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 149, 150, 153, 154, 157, 158, 159, 160, 164, 165, 167, 168, 169, 188, 189, 197, 204, 207 and 210.

14. The compound according to claim 1, wherein said compound comprises an antisense nucleic acid molecule that is specifically hybridizable with a 5'-untranslated region (5'UTR) of stearoyl CoA desaturase.

15. The compound according to claim 1, wherein said compound comprises an antisense nucleic acid molecule that is specifically hybridizable with a start codon region of stearoyl CoA desaturase.

16. The compound according to claim 1, wherein said compound comprises an antisense nucleic acid molecule that is specifically hybridizable with a coding region of stearyl CoA desaturase.

17. The compound according to claim 1, wherein said compound comprises an antisense nucleic acid molecule that is specifically hybridizable with a stop codon region of stearyl CoA desaturase.

18. The compound according to claim 1, wherein said compound comprises an antisense nucleic acid molecule that is specifically hybridizable with a 3'-untranslated region (3'UTR) of stearyl CoA desaturase.

19. A compound 8 to 50 nucleobases in length which specifically hybridizes with at least an 8-nucleobase portion of an active site on a nucleic acid molecule encoding human stearyl-CoA desaturase.

20. The compound according to claim 19, wherein said portion of said active site falls outside of nucleotide sequences spanning 70 through nucleotide 91, nucleotide 242 through nucleotide 262, or nucleotide 860 through nucleotide 882 of a nucleic acid molecule encoding human stearyl-CoA desaturase SEQ ID NO: 3.

21. A composition comprising the compound of claim 1 and a pharmaceutically acceptable carrier or diluent.

22. The composition according to claim 21, further comprising a colloidal dispersion system.

23. The composition according to claim 12, wherein the compound is an antisense oligonucleotide.

24. A method of inhibiting the expression of human

stearoyl-CoA desaturase in cells or tissues comprising contacting the cells or tissues with the compound of claim 1 so that expression of human stearoyl-CoA desaturase is inhibited.

25. A method of treating a human having a disease or condition associated with human stearoyl-CoA desaturase comprising administering to the human a therapeutically or prophylactically effective amount of the compound of claim 1 so that expression of human stearoyl-CoA desaturase is inhibited.

26. The method according to claim 25, wherein the condition involves abnormal lipid metabolism.

27. The method according to claim 25, wherein the condition involves abnormal cholesterol metabolism.

28. The method according to claim 25, wherein the condition is atherosclerosis.

29. The method according to claim 25, wherein the disease is cardiovascular disease.

30. A method of screening for an antisense compound, the method comprising the steps of:

a. contacting a preferred target region of a nucleic acid molecule encoding human stearoyl-CoA desaturase with one or more candidate antisense compounds, said candidate antisense compounds comprising at least an 8-nucleobase portion which is complementary to said preferred target region, and

b. selecting for one or more candidate antisense compounds which inhibit the expression of a nucleic acid molecule encoding human stearoyl-CoA desaturase.

31. A method for improving liver function in an animal

having elevated liver enzymes comprising administering to said animal a therapeutically or prophylactically effective amount of the compound of claim 1 so that expression of stearyl CoA desaturase is inhibited and thereby lowers liver enzyme levels.

32. A method for treating an obese animal comprising administering to said animal a therapeutically or prophylactically effective amount of the compound of claim 1 so that expression of stearyl CoA desaturase is inhibited, thereby reducing said animal's weight and appetite.

33. A duplexed antisense compound comprising:

(a) a nucleobase sequence 8 to 80 nucleobases in length targeted to a nucleic acid molecule encoding stearyl CoA desaturase with at least one natural or modified nucleobase forming an overhang at a terminus of said sequence; and

(b) the complementary sequence of said sequence (a) having optionally at least one natural or modified nucleobase forming an overhang at a terminus of said complementary sequence;

wherein said sequences (a) and (b), when hybridized, have at least one single-stranded overhang at at least one of terminus of said hybridized duplex, and wherein said duplex when interacted with a nucleic acid molecule encoding stearyl CoA desaturase can modulate the expression of said reductase.